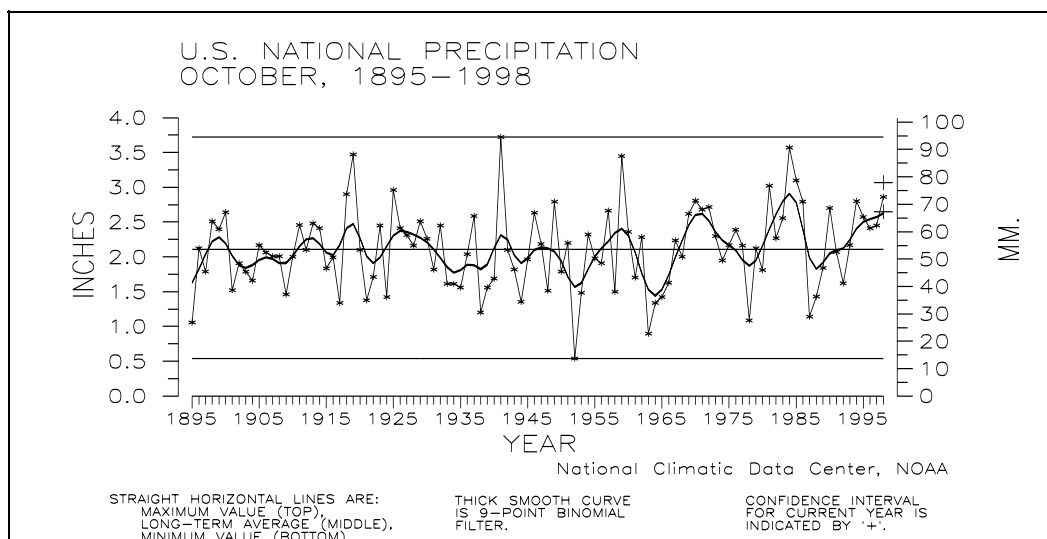
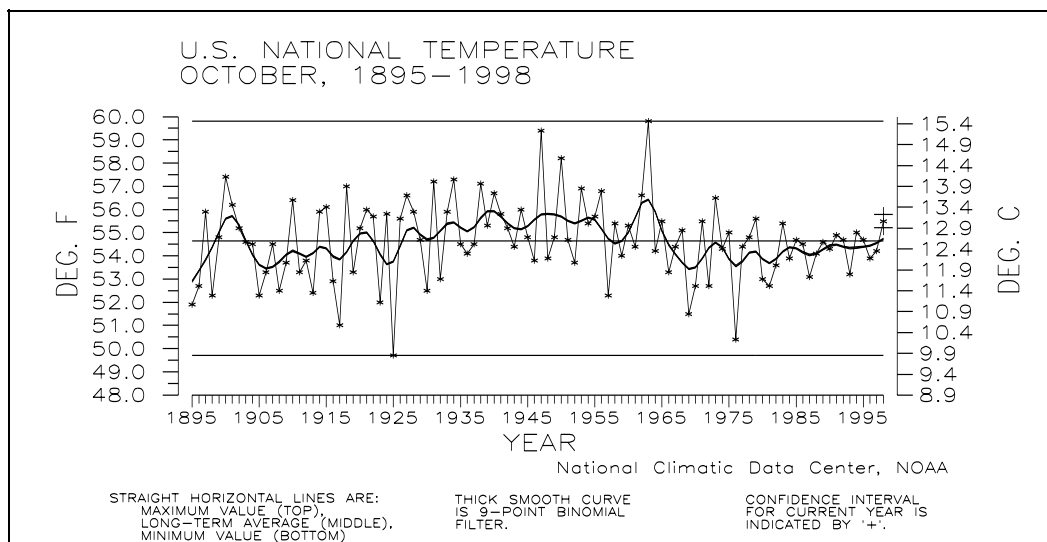


CLIMATE VARIATIONS BULLETIN



This CLIMATE VARIATIONS BULLETIN (CVB) is a preliminary report that puts current monthly climate anomalies into historical perspective using climate databases archived at the National Climatic Data Center (NCDC). It is issued on a monthly basis. Supplemental sections are included which address seasonal and annual perspectives, when appropriate.

Current data are based on preliminary reports from River Forecast Center stations and First and Second Order airport stations obtained from the National Weather Service (NWS) Climate Prediction Center. **THE CURRENT DATA SHOULD BE USED WITH CAUTION.** These preliminary data are useful for estimating how current anomalies compare to the historical record, however the actual values and rankings for the current year will change as the final data arrive at NCDC and are processed.

The following NCDC datasets are used for the historical data: the climate division drought database (TD-9640), and the hurricane datasets (TD-9636 and TD-9697). It should be noted that the climate division drought database consists of monthly data for 344 climate divisions in the contiguous United States. These divisional values are calculated from the 6000+ station Cooperative Observer network.

If you are a climate researcher and would like to order copies of the historical datasets used to make graphs of the type in this report, call 828-271-4994 or fax a letter to 828-271-4876 or mail a letter to the address given below, ATTN: Research User Services.

All other questions or requests for data should be made by calling 828-271-4800 or sending a fax to 828-271-4876 or by writing to:

National Climatic Data Center, NOAA
Federal Building
151 Patton Avenue, Room 120
Asheville, NC 28801-5001

If you use any of the information from this CVB, please identify "National Climatic Data Center, NOAA" as the source.

UNITED STATES OCTOBER CLIMATE IN HISTORICAL PERSPECTIVE

William O. Brown
National Climatic Data Center, NOAA
Global Climate Lab
Federal Building
Asheville, NC 28801 USA

- Table 1. Regional and National Precipitation and Temperature Ranks for October 1998
- Table 2. Regional and National Extremes, 1961-1990 Normals, and 1998 Values for October
- Table 3. Statistics for Selected River Basins, October 1998
- Figure 1. U.S. National Temperature, October, 1895-1998
- Figure 2. U.S. National Precipitation, October, 1895-1998
- Figure 3. U.S. National Normalized Precipitation Index, October, 1895-1998
- Figure 4. U.S. National Temperature, January-October, 1895-1998
- Figure 5. U.S. National Precipitation, January-October, 1895-1998
- Figure 6. U.S. National Normalized Precipitation Index, January-October, 1895-1998
- Figure 7. U.S. Percent Area Dry and Wet, January 1994-October 1998
- Figure 8. Primary Hard Red Winter Wheat Belt Precipitation, October, 1895-1998
- Figure 9. Southeast Region Precipitation, October, 1895-1998
- Figure 10. West-North Central Region Precipitation, October, 1895-1998
- Figure 11. South Region Temperature, October, 1895-1998
- Figure 12. West Region Temperature, October, 1895-1998
- Figure 13A. October 1998 Statewide Temperature Ranks
- Figure 13B. October 1998 Statewide Precipitation Ranks
- Figure 14A. January-October 1998 Statewide Temperature Ranks
- Figure 14B. January-October 1998 Statewide Precipitation Ranks

TABLE 1. PRECIPITATION AND TEMPERATURE RANKS, BASED
ON THE PERIOD 1895-1998. 1 = DRIEST/COLDEST,
104 = WETTEST/WARMEST FOR OCTOBER 1998,
104 = WETTEST/WARMEST FOR SEP-OCT 1998,
104 = WETTEST/WARMEST FOR MAY-OCT 1998,
103 = WETTEST/WARMEST FOR NOV 1997-OCT 1998.

REGION	OCT 1998	SEP-OCT 1998	MAY-OCT 1998	NOV 1997- OCT 1998
-----	----	-----	-----	-----
PRECIPITATION:				
NORTHEAST	63	30	71	93
EAST NORTH CENTRAL	92	51	64	74
CENTRAL	77	50	91	91
SOUTHEAST	11	50	18	96
WEST NORTH CENTRAL	102	84	91	83
SOUTH	97	94	35	68
SOUTHWEST	93	77	63	82
NORTHWEST	31	30	82	52
WEST	46	73	104	102
NATIONAL	96	83	67	99
TEMPERATURE:				
NORTHEAST	60	80	93	102
EAST NORTH CENTRAL	83	98	100	103
CENTRAL	72	95	94	98
SOUTHEAST	81	83	101	85
WEST NORTH CENTRAL	60	101	94	97
SOUTH	86	102	104	97
SOUTHWEST	44	80	84	74
NORTHWEST	30	87	94	98
WEST	30	60	25	52
NATIONAL	73	101	102	102

TABLE 2. EXTREMES, 1961-90 NORMALS, AND 1998 VALUES FOR OCTOBER. IT SHOULD BE NOTED THAT THE 1998 VALUES WILL CHANGE WHEN THE FINAL DATA ARE PROCESSED.

REGION	PRECIPITATION (INCHES)				NORMAL PCPN	1998 PCPN
	DRIEST VALUE	YEAR	WETTEST VALUE	YEAR		
NORTHEAST	.44	1924	6.96	1995	3.35	3.27
EAST NORTH CENTRAL	.25	1952	4.66	1984	2.47	3.48
CENTRAL	.53	1963	7.15	1919	3.04	3.66
SOUTHEAST	.53	1963	7.33	1959	3.16	1.48
WEST NORTH CENTRAL	.13	1952	2.72	1946	1.09	2.61
SOUTH	.12	1952	7.07	1984	2.89	5.16
SOUTHWEST	.02	1952	3.67	1972	1.12	1.88
NORTHWEST	.14	1987	5.20	1950	2.05	1.66
WEST	.01	1917	2.86	1962	1.01	.79
NATIONAL	.54	1952	3.72	1941	2.16	2.86*

* PRELIMINARY VALUE, CONFIDENCE
INTERVAL + OR - .21 INCHES

REGION	TEMPERATURE (DEGREES F)				NORMAL TEMP	1998 TEMP
	COLDEST VALUE	YEAR	WARMEST VALUE	YEAR		
NORTHEAST	42.7	1925	56.0	1947	48.9	49.9
EAST NORTH CENTRAL	37.5	1925	57.6	1963	47.8	50.6
CENTRAL	48.2	1917	62.9	1947	55.2	57.3
SOUTHEAST	58.2	1987	72.8	1919	63.4	65.7
WEST NORTH CENTRAL	35.5	1925	53.9	1963	45.9	46.7
SOUTH	56.7	1976	69.9	1947	63.4	66.1
SOUTHWEST	48.6	1984	59.4	1950	53.4	53.1
NORTHWEST	42.3	1919	53.9	1988	47.7	46.8
WEST	51.8	1916	62.1	1988	56.9	55.2
NATIONAL	49.7	1925	59.8	1963	54.4	55.5*

* PRELIMINARY VALUE, CONFIDENCE
INTERVAL + OR - .3 DEG. F.

TABLE 3.

STATISTICS FOR SELECTED RIVER BASINS: PRECIPITATION RANKING FOR OCT-OCT 1998, WHERE RANK OF 1 = DRIEST, 104 = WETTEST, BASED ON THE PERIOD 1895 TO 1998, AREAL PERCENT OF THE BASIN EXPERIENCING SEVERE OR EXTREME LONG-TERM (PALMER) DROUGHT, AND AREAL PERCENT OF THE BASIN EXPERIENCING SEVERE OR EXTREME LONG-TERM (PALMER) WET CONDITIONS, AS OF OCTOBER 1998. RIVER BASIN REGIONS AS DEFINED BY THE U.S. WATER RESOURCES COUNCIL.

RIVER BASIN -----	PRECIPITATION RANK -----	% AREA DRY -----	% AREA WET -----
MISSOURI BASIN	104	.0%	42.9%
PACIFIC NORTHWEST BASIN	30	2.2%	19.6%
CALIFORNIA RIVER BASIN	38	.0%	86.4%
GREAT BASIN	88	.0%	87.0%
UPPER COLORADO BASIN	79	.0%	.0%
LOWER COLORADO BASIN	87	.0%	30.1%
RIO GRANDE BASIN	96	.0%	8.8%
ARKANSAS-WHITE-RED BASIN	102	6.9%	31.3%
TEXAS GULF COAST BASIN	97	19.4%	16.3%
SOURIS-RED-RAINY BASIN	101	.0%	23.1%
UPPER MISSISSIPPI BASIN	100	4.8%	15.6%
LOWER MISSISSIPPI BASIN	55	9.0%	.0%
GREAT LAKES BASIN	51	31.3%	.0%
OHIO RIVER BASIN	61	.0%	2.3%
TENNESSEE RIVER BASIN	23	.0%	.0%
NEW ENGLAND BASIN	82	.0%	7.7%
MID-ATLANTIC BASIN	30	11.1%	5.3%
SOUTH ATLANTIC-GULF BASIN	14	2.9%	.0%

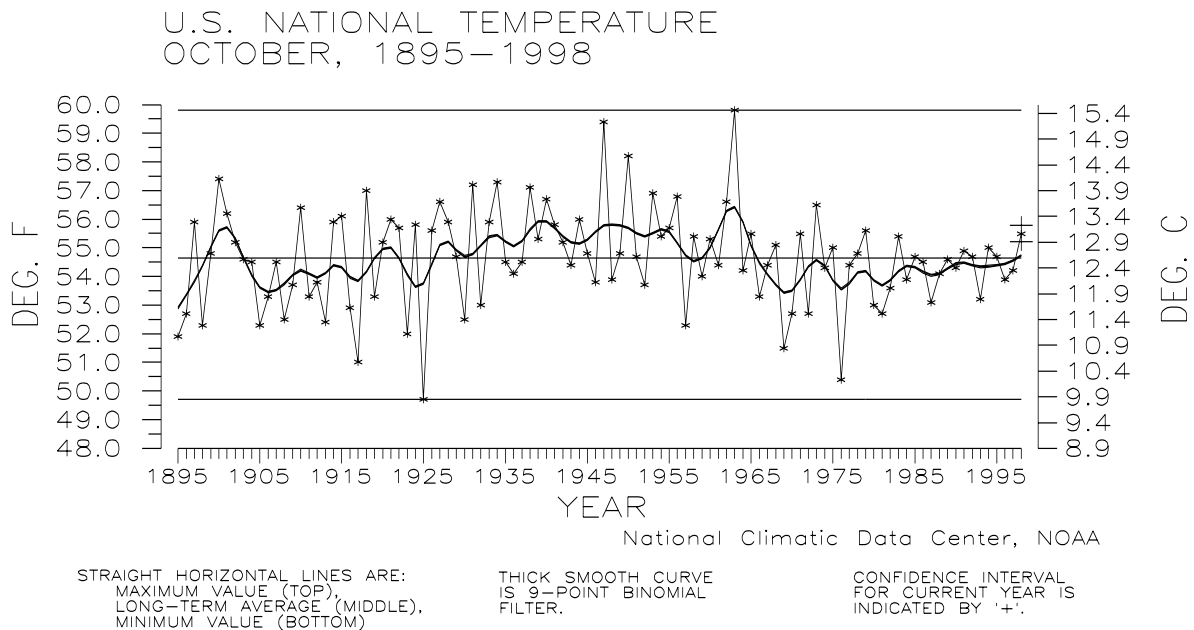


Figure 1: Preliminary data for October 1998 indicate that temperature averaged across the contiguous United States was above the long-term mean ranking as the 32nd warmest October since 1895. Less than one percent of the country was much warmer than normal while nearly zero percent of the country was much cooler than normal.

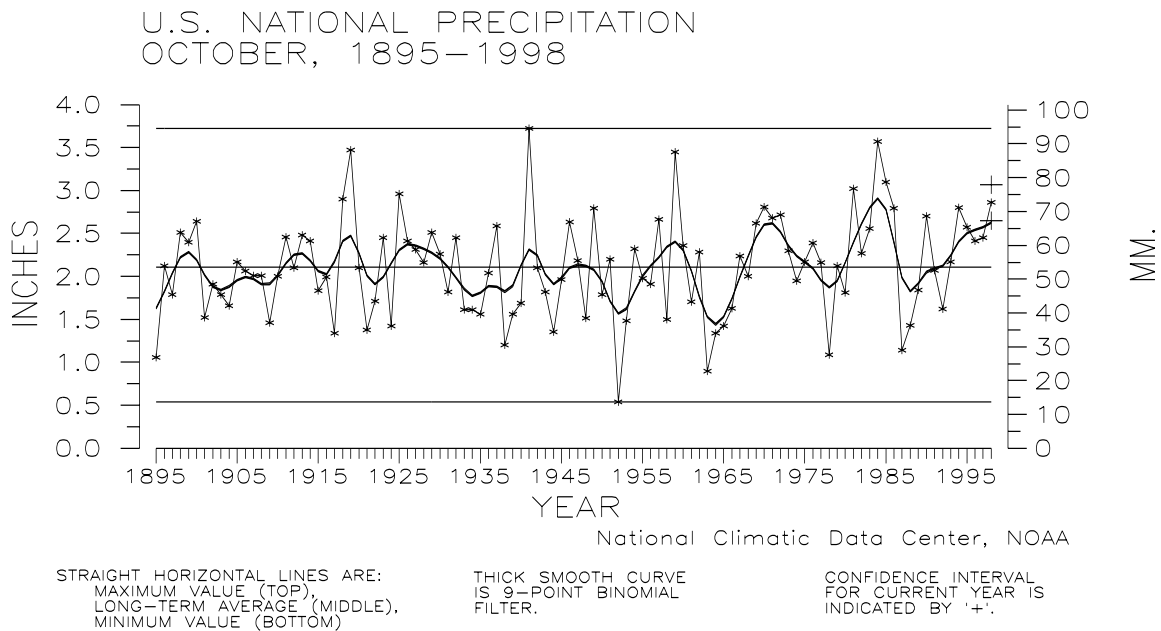


Figure 2: October 1998 was the ninth wettest such month since 1895. Nearly 24% of the country experienced much wetter than normal conditions while about two percent of the country was much drier than normal.

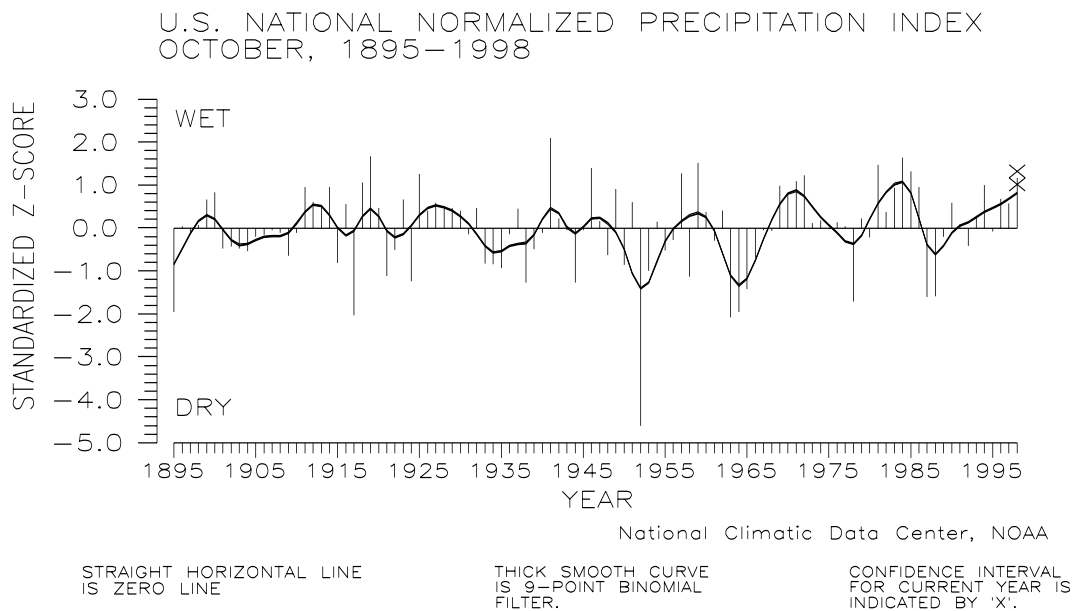


Figure 3: The preliminary national standardized precipitation index ranked October 1998 as the 11th wettest such month on record.

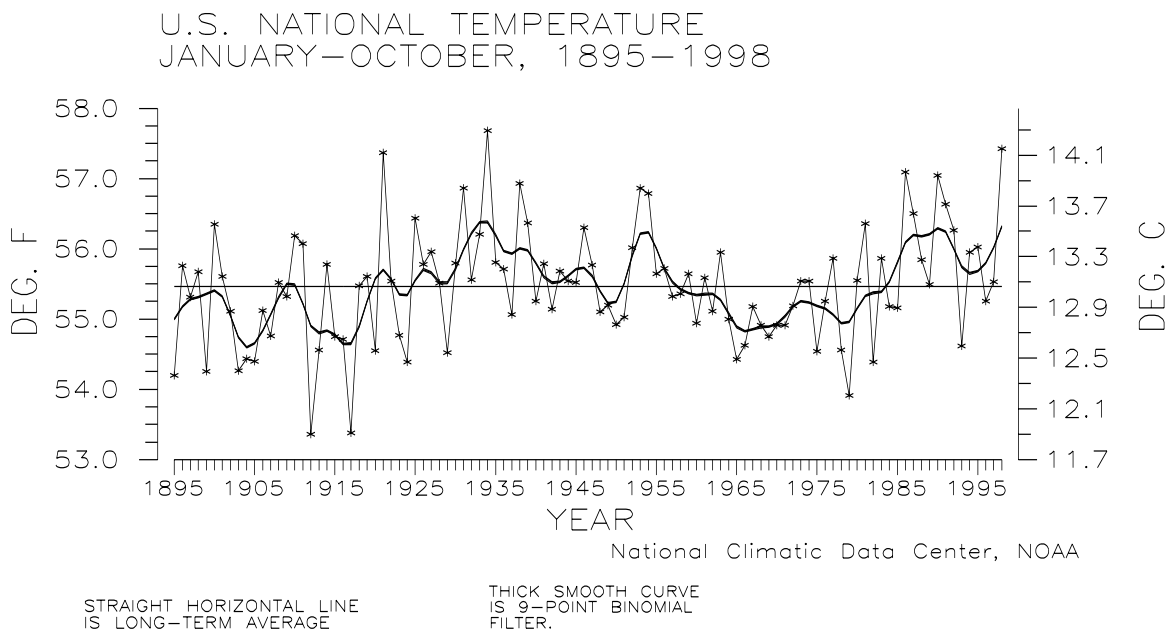


Figure 4: Based upon preliminary data, January–October 1998 was the second warmest such period on record. Nearly 67% percent of the country had much warmer than normal January–October temperatures while nearly zero percent of the country was much cooler than normal. Nine of the last thirteen such ten-month periods have been above- to much-above the long-term mean.

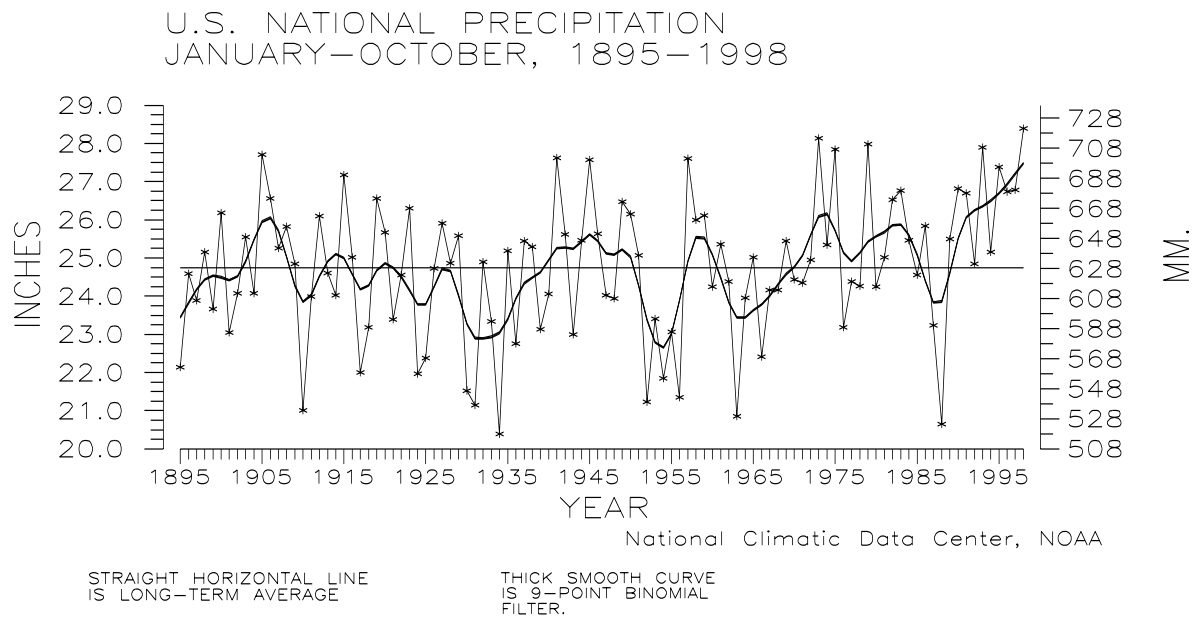


Figure 5: Preliminary precipitation data indicate that the year-to-date, January–October 1998, was the wettest such ten-month period since records began. About 28% of the country was much wetter than normal while about one percent of the country was much drier than normal. Nine of the last ten such ten-month periods have had precipitation above-to much-above the long-term mean.

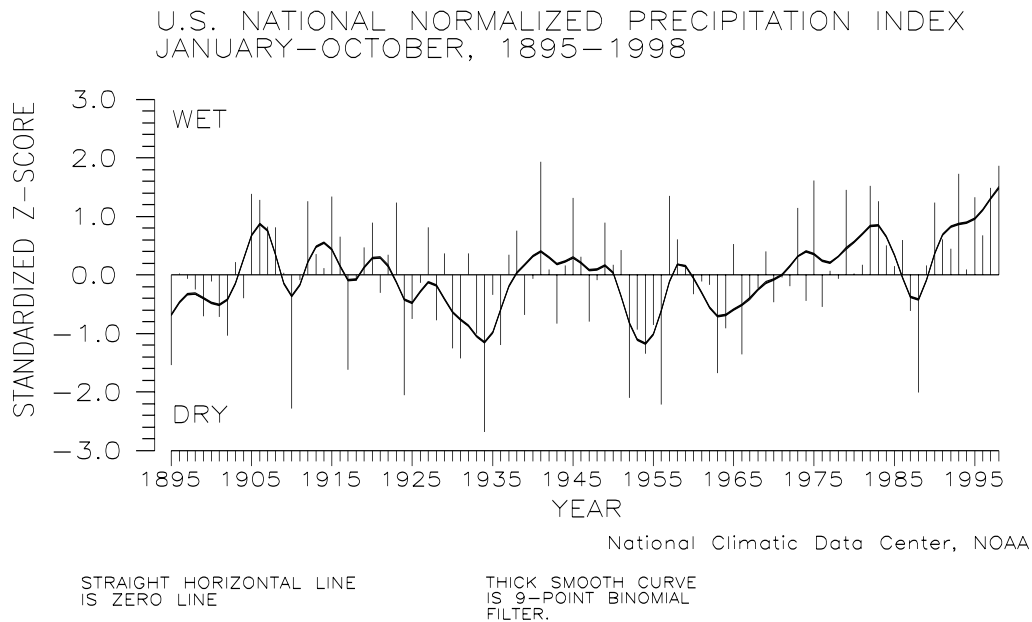


Figure 6: The preliminary national year-to-date standardized precipitation index ranked January–October 1998 as the second wettest such period since 1895.

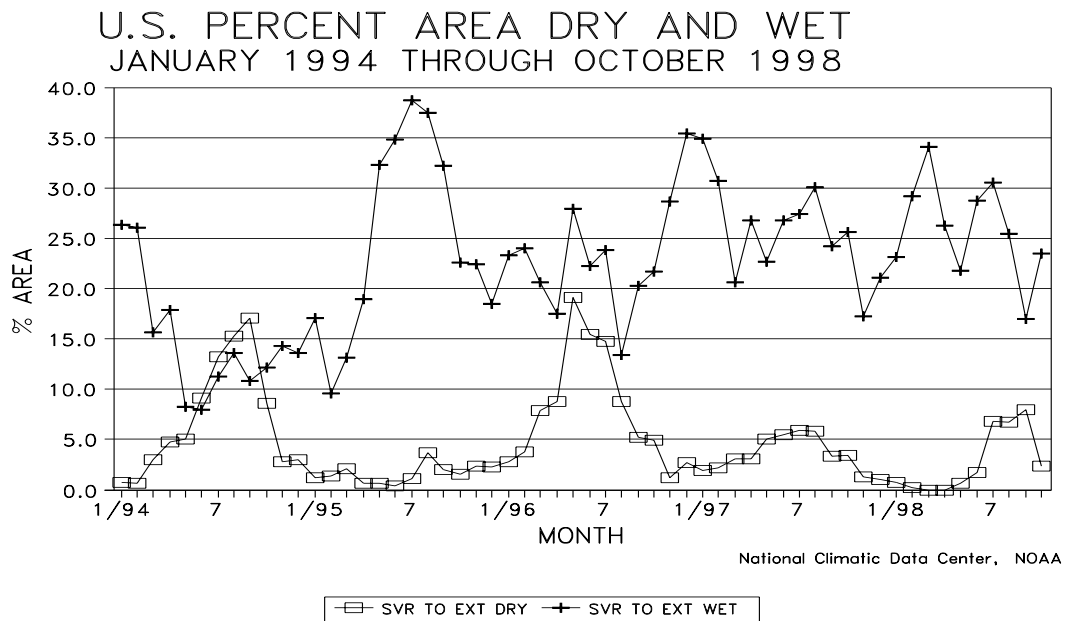


Figure 7: Long-term drought coverage (as measured by the Palmer Drought Index) showed a significant drop over September, with October 1998 having about two percent of the country in severe to extreme drought. The percent area of the country experiencing severe to extreme wetness increased to near 24%. The core dry areas included Michigan, northern Texas, southwestern Oklahoma, central and southern Florida, east-central Arkansas, the mid-Atlantic states centered around northern Virginia, and western Washington State. The core wet areas included California, the Great Basin, the northern and central Plains, the central Rockies, and parts of southern Texas.

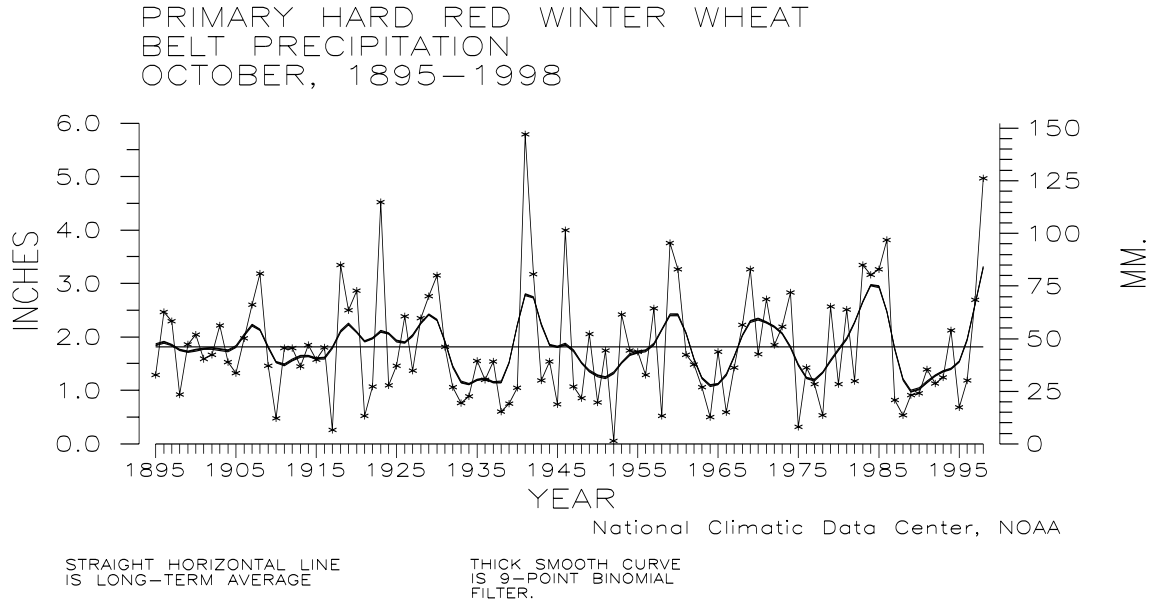


Figure 8: Preliminary data indicate that precipitation averaged across the Primary Hard Red Winter Wheat agricultural belt was much above the long-term mean for the first month of the growing season. This area includes the panhandle of Texas, the western half of Oklahoma, all except extreme southeastern Kansas, northeastern Colorado, and southern and western Nebraska.

SOUTHEAST REGION PRECIPITATION OCTOBER, 1895–1998

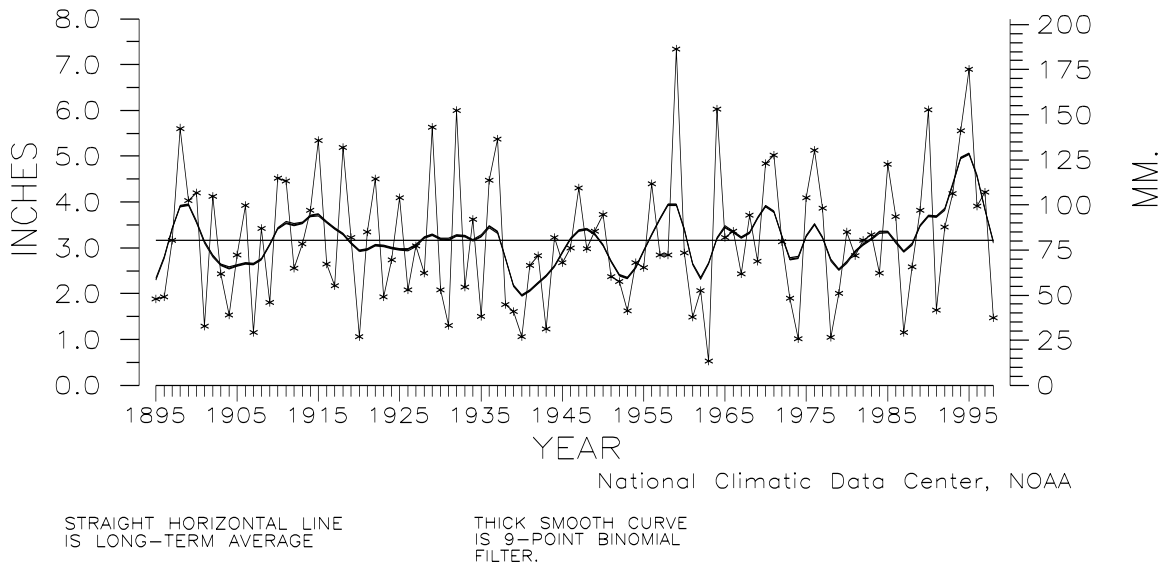


Figure 9: Preliminary data ranked October 1998 as the 11th driest such period on record for the Southeast Region. The Southeast Region includes Alabama, Georgia, Florida, North Carolina, South Carolina, and Virginia.

WEST-NORTH CENTRAL REGION PRECIPITATION OCTOBER, 1895–1998

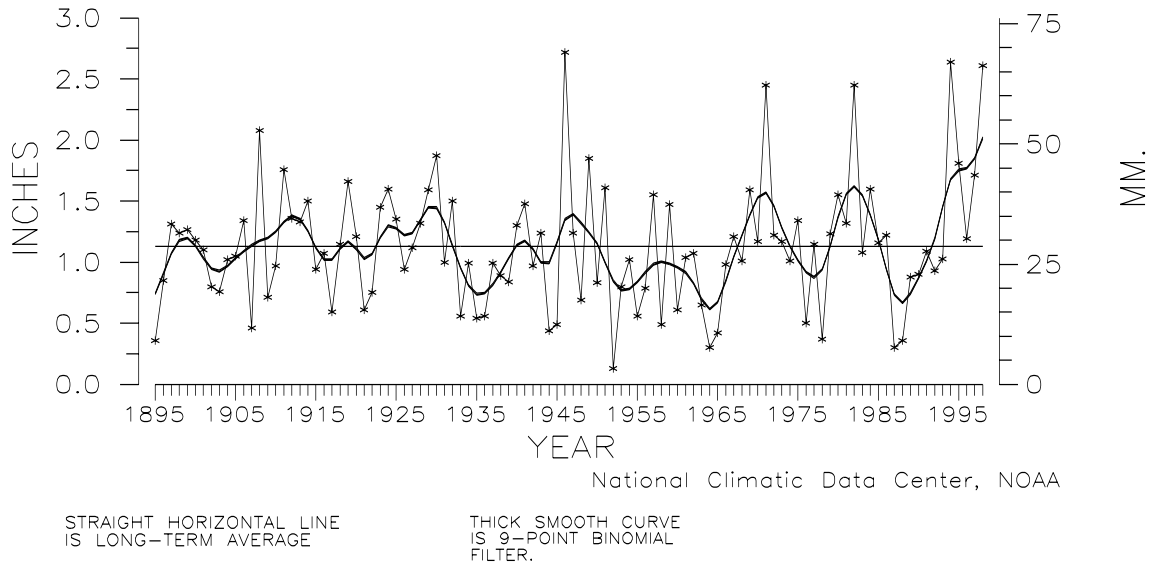


Figure 10: Preliminary data ranked October 1998 as the third wettest such month on record for the West-North Central Region. Four of the last five such months have had precipitation much above the long-term mean. The West-North Central Region includes Montana, Nebraska, North Dakota, South Dakota, and Wyoming.

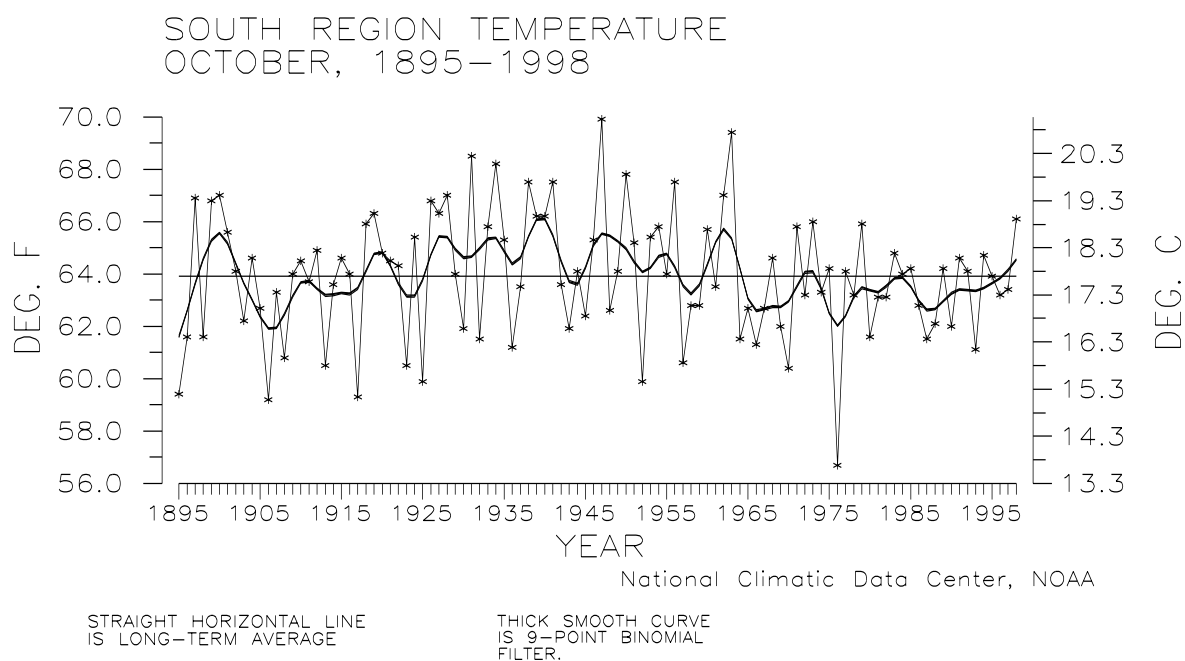


Figure 11: Preliminary data ranked October 1998 as the 19th warmest such period on record for the South Region. The South Region includes Arkansas, Kansas, Louisiana, Mississippi, Oklahoma, and Texas.

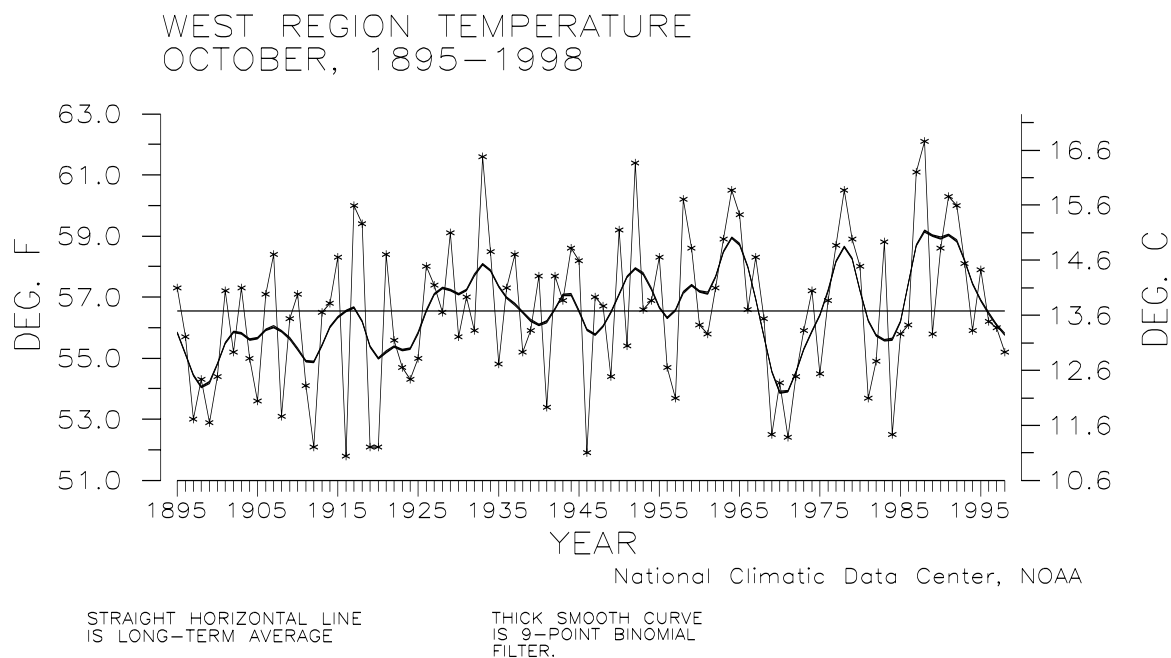


Figure 12: Preliminary data ranked October 1998 as the 30th coolest such month on record for the West Region. The West Region includes California and Nevada.

**FIGURE 13B:
PRECIPITATION**

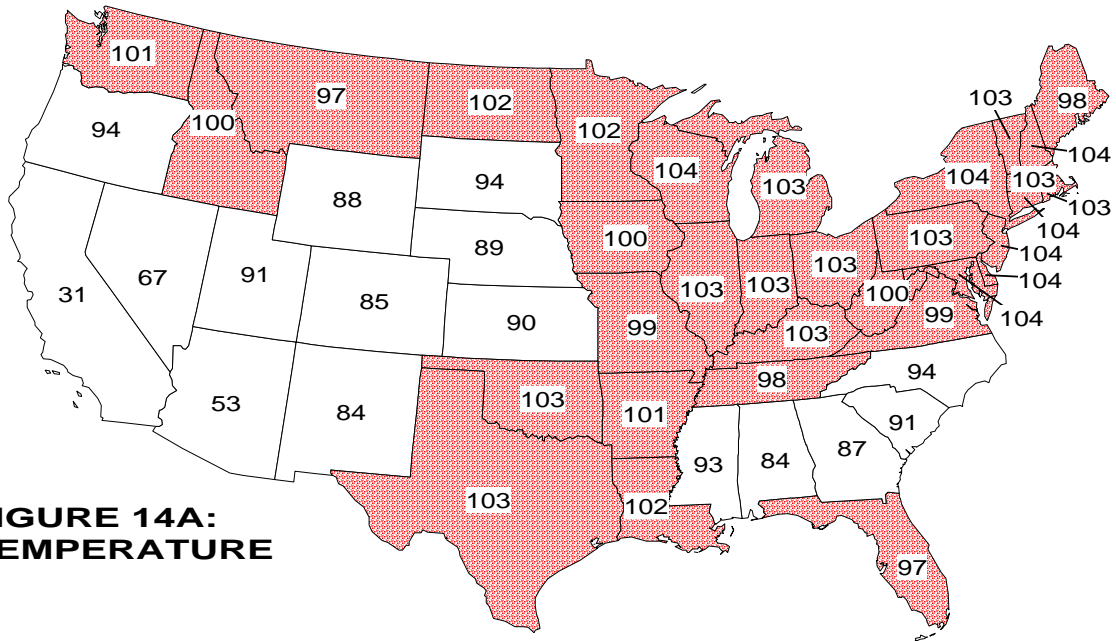
1 = Coldest/Driest

State	Precipitation (inches)	Shading
Alaska	48	White
Arizona	29	White
California	38	White
Colorado	18	White
Connecticut	82	White
Delaware	102	Blue
District of Columbia	100	Blue
Florida	10	Red
Georgia	79	White
Hawaii	79	White
Idaho	92	White
Illinois	78	White
Indiana	104	Blue
Iowa	94	White
Kansas	104	Blue
Kentucky	95	Blue
Louisiana	100	Blue
Maine	99	Blue
Maryland	102	Blue
Massachusetts	98	Blue
Michigan	55	White
Minnesota	65	White
Mississippi	87	White
Missouri	71	White
Montana	73	White
Nebraska	30	White
Nevada	60	White
New Hampshire	18	White
New Jersey	43	White
New Mexico	83	White
New York	76	White
North Carolina	40	White
North Dakota	81	White
Ohio	51	White
Oklahoma	73	White
Oregon	52	White
Pennsylvania	35	White
Rhode Island	11	White
South Carolina	33	White
South Dakota	21	White
Tennessee	31	White
Texas	17	White
Vermont	27	White
Virginia	41	White
Washington	23	White
West Virginia	87	White
Wisconsin	104	Blue
Wyoming	98	Blue

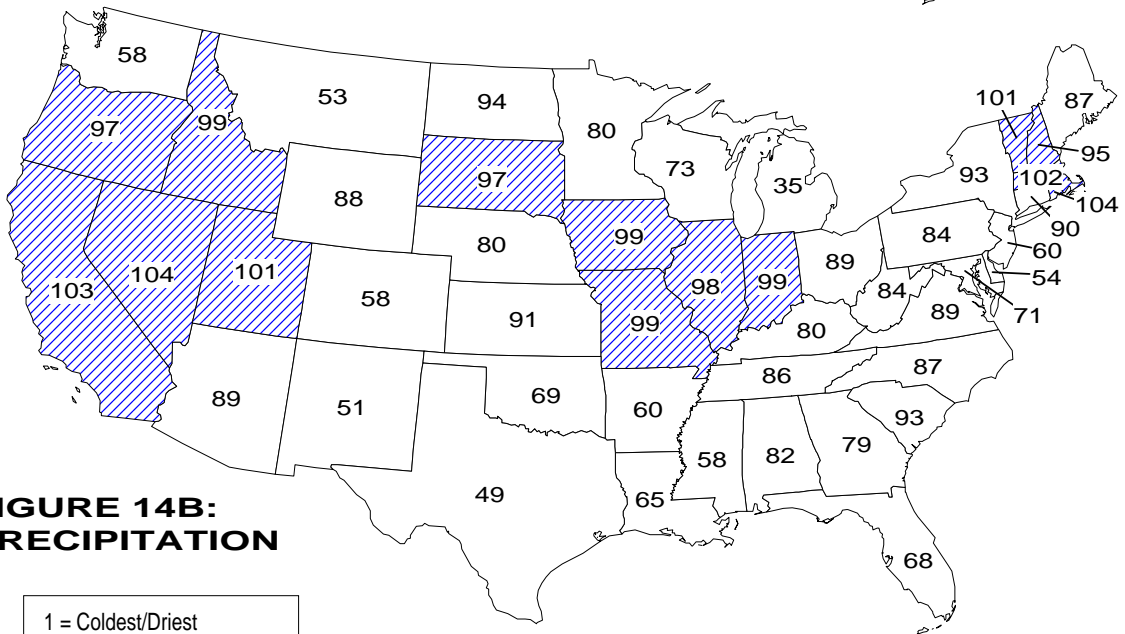
National Climatic Data Center, NOAA

11

JAN-OCT 1998 STATEWIDE RANKS



**FIGURE 14A:
TEMPERATURE**



**FIGURE 14B:
PRECIPITATION**

1 = Coldest/Driest
104 = Warmest/Wettest

National Climatic Data Center, NOAA

Temperature and Precipitation Ranks for the contiguous United States. Each state is ranked based on its data from 1895-1998. States having a rank of top ten coldest or driest (rank 1-10) or top ten warmest or wettest (rank 95-104) are shaded.

Figure 13A shows, in illustrative map form, the October 1998 temperature rankings for the 48 contiguous states. No state was within the top ten warm or top ten cool portion of the historical distribution. Twenty-four states ranked within the warm third of the historical distribution while six states ranked within the cool third of the distribution.

October 1998 state ranks for precipitation are shown in **Figure 13B**. Ten states ranked within the top ten wet portion of the distribution while 14 others ranked within the wet third portion of the distribution. One state also ranked within the top ten dry portion of the historical distribution while twelve others ranked within the dry third. ***It should be noted that these October state precipitation ranks are preliminary and should be used with considerable caution due to the high variability of precipitation on a small space and time scale.***

Year-to-date statewide temperature and precipitation ranks are shown in **Figures 14A and 14B**. Thirty-two states ranked within the top ten warm portion of the historical distribution including the warmest January-October period on record for Connecticut, Delaware, Maryland, New Hampshire, New Jersey, New York, and Wisconsin. Thirteen other states ranked within the warm third of the distribution. No state was within the top ten cool and only one (CA) ranked within the cool third of the distribution. Fourteen states had their tenth wettest or wetter January-October period including the wettest such period on record for Nevada and Rhode Island. Nineteen others ranked within the wet third portion of the distribution. Only one state (MI) ranked within the dry-third portion of the distribution for the ten-month period.

It should be emphasized that all of the temperature and precipitation ranks on these maps and in Table 1 are based on preliminary data. The ranks will change when the final data are processed.